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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,415	12/08/2004	Jill Macdonald Boyce	PU020259	2599

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Princeton, NJ 08543-5312

EXAMINER

MATTIS, JASON E

ART UNIT	PAPER NUMBER
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2616

MAIL DATE	DELIVERY MODE
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11/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,415	BOYCE ET AL.	
	Examiner	Art Unit	
	Jason E. Mattis	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4 papers</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities:

Line 2 of claim 19 appears to contain a typo. It is recommended that the phrase "comprise as least one of" be amended to "comprise at least one of" to remove this typo.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6, 7, and 10-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Meehan et al. (U.S. Pat. 6909753).

With respect to claim 1, Meehan et al. discloses a method for communicating data representing a media object encoded into classified data representing base layer

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information and enhancement layer information through a network fabric (**See the abstract, column 3 lines 43-57, and column 6 lines 28-35 of Meehan et al. for reference to a method for communicating data representing a video stream, which is a media object, encoded into classified data having a base layer and at least one enhancement layer**). Meehan et al. also discloses transmitting a composition of the classified data as prioritized data in response to network conditions wherein the classified data comprises at least one base layer information with associated parity information (**See column 5 line 36 to column 6 line 46 and Figure 1 of Meehan et al. for reference to transmitting a prioritized composition of data in response to a signal quality indicator, which is an indication of network conditions, where the data comprises base layer information with an associated error correction code, which is parity information**). Meehan et al. further discloses adjusting a composition of prioritized data for transmission in response to a change in network conditions wherein the composition of classified data is modified with enhancement layer information (**See column 6 lines 16-62 of Meehan et al. for reference to changing the composition of transmitted data in response to a change in signal quality, which is a change in network conditions, where the data is modified with enhancement layer information**).

With respect to claim 13, Meehan et al. discloses a method for communicating data representing a media object (**See the abstract and column 3 lines 43-57 of Meehan et al. for reference to a method for communicating data representing a video stream, which is a media object**). Meehan et al. also discloses determining

network conditions (**See column 6 lines 36-54 of Meehan et al. for reference to determining signal quality, which corresponds to determining network conditions**). Meehan et al. also discloses transmitting prioritized data in accordance with network conditions (**See column 5 line 36 to column 6 line 46 and Figure 1 of Meehan et al. for reference to transmitting prioritized data in accordance with the signal quality**). Meehan et al. further discloses that the prioritized data is generated as a composition of classified data representing at least one base layer and at least one enhancement layer with parity data being associated with each layer (**See column 5 line 36 to column 6 line 46 and Figure 1 of Meehan et al. for reference to the data including both base layer and enhancement layer information with each layer have an associated error correction code, which includes parity data**). Meehan et al. also discloses determining the composition of transmitted base layer information with associated parity data and transmitted enhancement layer information with associated parity data in response to network conditions (**See column 6 lines 36-62 of Meehan et al. for reference to changing the composition of transmitted base layer information, enhancement layer information, and associated error correction code information in response to network signal quality**).

With respect to claim 20, Meehan et al. discloses a method of decoding communicated data representing a media object (**See the abstract and column 3 lines 43-57 of Meehan et al. for reference to a method for communicating, receiving, and decoding data representing a video stream, which is a media object**). Meehan et al. also discloses processing prioritized data representing a composition of classified

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data that is pre-encoded into at least one base layer of information and at least one enhancement layer of information with parity data being associated with each layer (**See column 5 line 36 to column 6 line 46 and Figure 1 of Meehan et al. for reference to pre encoded data including both base layer and enhancement layer information with each layer have an associated error correction code, which includes parity data**). Meehan et al. further discloses requesting that the composition of classified data transmitted as prioritized data change to reflect different network conditions (**See column 6 lines 36-62 of Meehan et al. for reference to using a feedback control signal to request that the composition of data including the base layer and enhancement layer data be changed according to a change in signal quality, which is a change in network conditions**).

With respect to claim 2, Meehan et al. discloses that the classified data is pre-encoded (**See column 5 lines 39-45 for reference to the video stream being pre-recorded in a standard television format**).

With respect to claim 3, Meehan et al. discloses that the transmitting is enabled by a multimedia server (**See column 1 lines 55 to column 2 line 18 of Meehan et al. for reference to transmitting a video stream via a streaming server, which is a multimedia server**).

With respect to claim 4, Meehan et al. discloses using temporal scalability (**See column 3 lines 62-65 for reference to using time division modulation, which corresponds to temporal scalability, to make the channel coding more or less robust**).

With respect to claim 6, Meehan et al. discloses adjusting the data composition by reducing an amount of the enhancement layer information and increasing an amount of the base layer parity data when network conditions degrade regarding the media object **(See column 6 lines 47-62 of Meehan et al. for reference to reducing the amount of enhancement layer information mapped to a video stream and increasing the amount of error correction code when signal quality is bad).**

With respect to claim 7, Meehan et al. discloses adjusting the data composition by reducing the base layer information and associated parity information and increasing an amount of the enhancement layer information and associated parity data when network conditions are favorable **(See column 6 lines 47-54 of Meehan et al. for reference to reducing the amount of enhancement layer information and associated error correction code when communication quality is bad, meaning that the amount of enhancement layer information and associated error correction code must be increased during times when the communication quality is not bad).**

With respect to claim 10, Meehan et al. discloses using more than one enhancement layer and associated parity data **(See column 5 line 54 to column 6 line 15 of Meehan et al. for reference to using one or more enhancement layers with associated error correction codes).**

With respect to claims 11, 12, and 19, Meehan et al. discloses that the network conditions considered during the transmission and adjustment step comprise an actual loss and a change in the actual loss of transmitted data **(See column 6 lines 43-46 of**

Meehan et al. for reference to the signal quality indicator including a bit error rate value, which corresponds to an actual loss of transmitted data).

With respect to claim 14, Meehan et al. discloses using more base layer parity data when network conditions result in a loss of data (See column 6 lines 55-62 of Meehan et al. for reference to increasing the amount of error correction code when signal quality is bad resulting in a higher bit error rate).

With respect to claim 15, Meehan et al. discloses transmitting more enhancement layer information when network conditions result in more data being successfully received (See column 6 lines 47-54 of Meehan et al. for reference to reducing the amount of enhancement layer information and associated error correction code when communication quality is bad, meaning that the amount of enhancement layer information and associated error correction code must be increased during times when the communication quality is not bad resulting in a lower bit error rate).

With respect to claim 16, Meehan et al. discloses that the data is sent in the form of packets (See column 5 line 59 to column 6 line 34 of Meehan et al. for reference to transmitting data in the form of packets).

With respect to claim 17, Meehan et al. discloses packing data packets with more enhancement layer information with associated parity data when space is available (See column 6 lines 47-62 of Meehan et al. for reference to reducing the amount of enhancement layer information and associated error correction code when communication quality is bad, meaning that the amount of enhancement

layer information and associated error correction code must be increased during times when the communication quality is not bad and more space is available).

With respect to claim 18, Meehan et al. discloses changing the composition of data transmitted in response to a request from a decoder **(See column 6 lines 35-62 for reference to a decoded using a feedback control signal to request a change in the composition of data transmitted).**

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meehan et al. in view of Van Gestel et al. (U.S. Pat. 5579183).

With respect to claim 5, Meehan et al. does not specifically disclose transmitting data as data packets that are sequentially numbered.

With respect to claim 5, Van Gestel et al., in the field of communications, discloses transmitting data as data packets that are sequentially numbered **(See column 3 lines 47-61 and column 4 lines 13-44 of Van Gestel et al. for reference to transmitting MPEG packets including a packet sequence number).** Transmitting

data as data packets that are sequentially numbered has the advantage of allowing data to be more easily received and decoded in the proper order (**See column 4 lines 13-44 of Van Gestel et al. for reference to the advantage**).

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Van Gestel et al., to combine transmitting data as data packets that are sequentially numbered, as suggested by Van Gestel et al., with the system and method of Meehan et al., with the motivation being to allow to be more easily received and decoded in the proper order.

6. Claims 8, 9, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meehan et al. in view of Boyce (U.S Pat. 6317462 B1).

With respect to claim 8, Meehan et al. does not specifically disclose encoding data with a forward error correction code using Reed Solomon codes.

With respect to claim 21, although Meehan et al. does disclose encoding data using error correction codes, Meehan et al. does not specifically disclose using forward erasure correction.

With respect to claims 8 and 21, Boyce, in the field of communications, discloses encoding data with a forward erasure correction code using Reed Solomon codes (**See the abstract of Boyce for reference to encoding video data with a systematic forward erasure code such as a Reed Solomon code**). Encoding data with a forward erasure correction code using Reed Solomon codes has the advantage of providing more robust protection against errors.

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It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Boyce, to combine encoding data with a forward erasure correction code using Reed Solomon codes, as suggested by Boyce, with the system and method of Meehan et al., with the motivation being to provide more robust protection against errors.

With respect to claim 9, Meehan et al. discloses selecting the composition of data to be transmitted based on network conditions by accessing a data store corresponding to data class **(See column 5 line 36 to column 6 line 46 and Figure 1 of Meehan et al. for reference to data being separated and stored into different base and enhancement layers and for reference to selecting the composition of data to be transmitted from the stored base and enhancement layer information based on signal quality).**

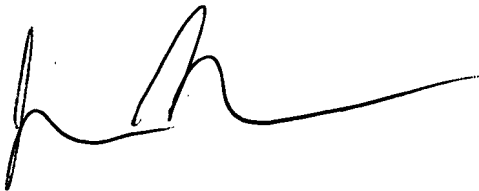
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'JEM', with a long horizontal flourish extending to the right.

Jason E Mattis
Examiner
Art Unit 2616

jem